

# Math finance formula sheet 1

1.) (X,Y)

$$\int f_{X,Y}(x,y) dy$$

2.)

$$\mathbb{E}(XY) - \mu_X \mu_Y$$

$$\frac{c_{X,Y}}{\sigma_X \sigma_Y}$$

3.)

$$\frac{f_{X,Y}(x,y)}{f_Y(y)}$$

4.)

$$\int_{\mathbb{R}} x f_X(x|Y) dx$$

5.)  $Y = g(X)$

$$\sum_i f_X(x_i(y)) \left| \frac{d}{dy} x_i(y) \right|$$

1.)

$$1 + q + q^2 + \dots + q^n = \frac{1 - q^{n+1}}{1 - q}$$

2.)

$$\frac{1}{r} [1 - (1+r)^{-n}]$$

3.)

$$\left(1 + \frac{r}{m}\right)^{tm}$$